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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/634,602

08/04/2003

Mark C. Pontarelli

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EXAMINER

BAE, JI H

ART UNIT

PAPER NUMBER

2115

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/634,602	PONTARELLI, MARK C.	
	Examiner	Art Unit	
	Ji H. Bae	2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments, see applicant's remarks, pages 7-11, filed on 8 June 2006, with respect to the rejection(s) of claim(s) 1-20 under 35 U.S.C. 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art, the search for which was necessitated by applicant's amendments to the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Novoa et al., U.S. Patent No. 6,493,824 B1, in view of Williams et al., U.S. Patent No. 6,105,102.

Regarding claim 1, Novoa teaches a system with multiple network interfaces [Fig. 2, NIC 117/119], the system implementing a method with steps comprising [Fig. 4]:

detecting an event associated with a first network interface [steps 404-414];

waking a host processor in response to the detected event [step 416];

servicing the first network interface based on the detected event [step 418].

Although Novoa teaches multiple network interfaces, Novoa does not teach the step of servicing a second network interface during a same wake session.

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Williams teaches a method wherein, after completing a first interrupt service routine, a network interface is polled and serviced without requiring a context switch [col. 3, lines 11-18, 41-47, col. 4, lines 43-65].

It would have been obvious to one of ordinary skill in the art to combine the teachings of Novoa and Williams by implementing the polling step of Williams in the system of Novoa. Both Novoa and Williams disclose methods of servicing events at a network interface. Additionally, Novoa discloses at least two network interfaces [Fig. 2, NIC 117 and 119], and Williams specifically teaches that the inventive method is intended to be used for servicing a network interface [col. 3, lines 41-43]. The teachings of Williams would improve the system of Novoa by providing a way to service events from the second network interface in such a way that minimizes context switching. More specifically, since Novoa teaches that the first network interface is serviced during a wake session, the teachings of Williams as applied to Novoa would imply that the second network interface would be serviced during the same wake session.

Regarding claim 2, the combination of Novoa and Williams teaches an event from the group comprising:

a synchronous event, an asynchronous event, an internal event, and an external event.

Regarding claim 3, the combination of Novoa and Williams teaches that the detecting comprises the first network interface receiving a request from an external device.

Regarding claim 4, the combination of Novoa and Williams teaches that the detecting comprises detecting an event at a network interface.

Regarding claim 5, the combination of Novoa and Williams teaches a method comprising:

detecting an event related to a first network interface;

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querying a second network interface to determine if the second network interface requires servicing;

servicing the first network interface and the second network interface in response to the detecting.

Regarding claim 6, the combination of Novoa and Williams teaches an event from the group comprising:

a synchronous event, an asynchronous event, an internal event, and an external event.

Regarding claim 7, the combination of Novoa and Williams teaches that detecting comprises detecting an event received at the first network interface.

Regarding claim 8, the combination of Novoa and Williams teaches that servicing comprises a host processor detecting a timer event related to servicing the first network interface.

Regarding claim 9, the combination of Novoa and Williams teaches servicing a first and second network interface during the same wake session.

Regarding claim 10, the combination of Novoa and Williams teaches the additional steps of:

placing a host processor in a power saving state prior to detecting the event; and

returning the host processor to a power saving state after servicing the first and second network interfaces.

Regarding claim 11, the combination of Novoa and Williams teaches the method comprising:

detecting an event related to a first network interface;

detecting an event related to a second network interface;

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querying any one of the first and second interfaces to determine if any one of the first and second network interfaces require servicing;

notifying a processor of the events for the first and second network interfaces;

servicing the events for both the first and second network interfaces in response to the notifying.

Regarding claim 12, the combination of Novoa and Williams teaches that notifying comprises sending an interrupt to a processor [Novoa, col. 4, lines 24-26].

Regarding claim 13, the combination of Novoa and Williams teaches that notifying comprises waking the processor from a power saving state and notifying the processor of the detected events.

Regarding claim 14, the combination of Novoa and Williams teaches that the system is placed in a power saving state prior to the detecting, and the system is returned to the power saving state after the servicing.

Regarding claim 15, the combination of Novoa and Williams teaches the methods of claims 1-14. The combination also teaches the apparatus to implement the claimed method. In particular, Novoa teaches a control module [Fig. 3, control module 308] that handles the detecting and servicing aspects of the network interface [col. 7, line 64 to col. 8, line 9]. It would have been obvious to one of ordinary skill in the art to apply the inventive teachings of Williams to the control module of Novoa when combining Williams with Novoa.

Regarding claims 16-20, the claimed limitation are obvious in view of design choice. It would have been obvious to one of ordinary skill in the art that the combination of Novoa and Williams could have been applied to any combination of wired or wireless network.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ji H. Bae whose telephone number is 571-272-7181. The examiner can normally be reached on Monday-Friday, 10 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on 571-272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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